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Friedrich Kastner

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EXAMINER

JOLLEY, KIRSTEN

ART UNIT

PAPER NUMBER

1792

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/523,825	<b>Applicant(s)</b> KASTNER ET AL.	
	<b>Examiner</b> Kirsten C. Jolley	<b>Art Unit</b> 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/4/05</u> .  | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 1-2 are objected to because of the following informalities: In claims 1 and 2, the Examiner suggests adding the phrase --to form the spacer layer-- after the phrase “and subsequently one or several partial and/or all-over polymer layers of defined thickness are applied” in order to clarify that the polymer layers form the spacer layer which is introduced in line 2 of each claim.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The limitation of claim 5 requiring “wherein the layer *onto which* the spacer layer is applied, is modified by treatment with oxidizing fluids or by a PVD or CVD process” [emphasis added] is not enabled in the specification. The specification discloses at page 6, third full paragraph, that it is the spacer layer that is modified, not the layer *onto which* (under) the spacer layer is applied. Further, the

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Examiner was unable to locate disclosure in the specification for modifying the layer under the spacer layer.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 is vague and indefinite because the phrase “wherein the cluster layer a protective layer is applied” is confusing. It appears that the phrase --on top of-- should be added before "the cluster layer."

Claim 8 is vague and indefinite because it is not clear from the claim language whether treatment with sodium hypochlorite, through a PVD process, and through a CVD process are intended to be processes in the alternative, or whether “through a PVD or a CVD process” is intended to further describe the sodium hypochlorite treatment. The specification does not provide clarification.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-4 and 10-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Walter et al. (US 2005/0001038).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

With respect to independent claim 1, Walter et al. discloses a method for the production of antifalsification identification elements comprising: applying a layer reflecting electromagnetic waves and subsequently a polymeric spacer layer on a carrier substrate (Figure 1 and paragraphs 10-11); followed by applying a layer formed of metallic clusters on the spacer layer; wherein the metallic clusters layer is produced by solvent-based coating system (paragraphs 15 and 19) or vacuum technology (paragraph 67).

As to claim 3, Figure 2 illustrates use of a second carrier substrate having metallic clusters layer thereon, and connecting the two carrier substrates to generate the identification element.

As to claim 4, Walter et al. teaches a protective layer on top of the metallic clusters layer in paragraphs 17-18.

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As to claim 10, Walter et al. teaches that the cluster layer may be applied by CVD or PVD in paragraph 19.

With respect to independent claim 2, Walter et al. discloses a method for the production of antifalsification identification elements comprising: applying a layer formed of metallic clusters and subsequently a polymeric spacer layer on a carrier substrate (paragraphs 22 and 10-11); followed by applying a layer reflecting electromagnetic waves on the spacer layer; wherein the metallic clusters layer is produced by solvent-based coating system (paragraphs 15 and 19) or vacuum technology (paragraph 67).

As to claim 11, Figure 2 illustrates use of a second carrier substrate having metallic clusters layer thereon, and a first carrier having an electromagnetic wave reflecting layer and spacer layer thereon, and connecting the two carrier substrates to generate the identification element.

8. Claims 1-4 and 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 02/18155.

It is noted that the prior art of Bauer et al. (US 2004/0026917) is used as a working English translation of the WO '155 reference and is cited below.

With respect to independent claim 1, WO '155 discloses a method for the production of antifalsification identification elements comprising: applying a spacer layer, which may be polymeric (paragraph 39 of Bauer et al.), on a layer reflecting electromagnetic waves (Figure 1); followed by applying a layer formed of metallic clusters on the spacer layer; wherein the metallic clusters layer is produced by vacuum technology (paragraph 22). While the Figures illustrate the

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layer 1 reflecting electromagnetic waves as the lowermost/substrate layer, WO '155 teaches that the layer reflecting electromagnetic waves is attached to an object (paragraphs 6, 9, 11, and 13), which meets the limitation of a carrier substrate. It is noted that the claims do not require an order of steps.

As to claim 3, Figure 3 illustrates use of a second carrier substrate having metallic clusters layer thereon, and connecting the two carrier substrates to generate the identification element.

As to claim 4, WO '155 teaches a protective layer 5 on top of the metallic clusters layer (paragraph 39 of Bauer et al.).

As to claim 10, WO '155 teaches that the cluster layer may be applied by vacuum technologies (paragraph 22 of Bauer et al.), which is known to be inclusive of vapor deposition.

With respect to independent claim 2, Figure 3 illustrates use of a second carrier substrate having metallic clusters layer thereon, and a first film of a spacer layer and electromagnetic wave reflecting layer, and connecting the two to generate the identification element. As to claim 11, WO '155 also teaches that the first layer reflecting electromagnetic waves is attached to an object, as discussed above, which meets the limitation of a carrier substrate.

9. Claims 1-2, 4, and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Phillips et al. (US 2004/0101676).

With respect to independent claim 1, Phillips et al. discloses a method for the production of antifalsification identification elements comprising: applying a layer 22 reflecting electromagnetic waves and subsequently a dielectric spacer layer 20, which may be polymeric

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(paragraph 67), on a carrier substrate 12 (Figure 8B and paragraph 84); followed by applying an absorber layer 18 on the spacer/dielectric layer 20. Phillips et al. teaches that the absorber layer may be formed of metals mixed in a dielectric matrix (paragraph 64), which would form metallic clusters. The metallic clusters layer is produced by vacuum technology (paragraph 85).

With respect to independent claim 2, Phillips et al. discloses a method for the production of antifalsification identification elements comprising a reversed order of deposition (paragraph 84): applying an absorber layer 18 containing metallic clusters and subsequently a dielectric spacer layer 20, which may be polymeric (paragraph 67), on a carrier substrate 12; followed by applying a layer 22 reflecting electromagnetic waves on the spacer/dielectric layer 20.

As to claim 4, Phillips et al. teaches a protective layer on top of the metallic clusters layer in the embodiment of Figure 10B, where a carrier sheet 64 is the bottommost layer/substrate and a film substrate 12 acts as a protective layer on top of the layer 18 having metallic clusters therein.

As to claim 6, Phillips et al. teaches “structuring” of its polymeric dielectric layer through laser ablation and/or laser scribing (paragraphs 90-94). Applicant’s own specification discloses at page 5, first full paragraph, that laser modification is a known means for effecting structuring or decrosslinking of its spacer layer.

As to claim 10, Phillips et al. teaches that the metallic cluster layer is applied by vacuum processing (paragraph 85) which is inclusive of vapor deposition.



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***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips et al.

As discussed with respect to claim 6, Phillips et al. teaches laser ablation and/or laser scribing to structure its layers, including the polymeric dielectric/spacer layer. Phillips et al. lacks a teaching of converting the layer(s) into unique codes by means of fingerprint algorithms. However Phillips et al. teaches the desire to form unique features including bar codes, pictures of faces or people, etc. (paragraph 91). It would have similarly been obvious for one having ordinary skill in the art to have used fingerprint algorithms to form unique codes, as a matter of design preference, with the expectation of successful results, since the reference similarly teaches the formation of unique codes.

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips et al. as applied to claim 1 above, and further in view of Kraus et al. (US 2002/0123235).

Phillips et al. teaches the desire to form various images in its optical coating. As an alternative to laser ablation or scribing, Phillips et al. teaches use of etching as means to form the images (paragraph 91). The Examiner notes that the claimed chemical sodium hypochlorite is a known etchant. The prior art of Kraus et al. is cited merely for its teaching that hypochlorite salts are known etchants, including sodium hypochlorite (paragraphs 13-14). It is the

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Examiner's position that it would have been obvious to one having ordinary skill in the art to have used any known etchant, including sodium hypochlorite, to etch various images in its optical coatings (including the spacer layer) with the expectation of successful results since Phillips et al. is not limited to particular materials to be used and since sodium hypochlorite is a known etchant material.

13. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips et al. as applied to claim 1 above, and further in view of Winnik et al. (US 5,286,286).

Phillips et al. discusses the inclusion of color shifting ink in its optical coating (paragraph 90) as means for increasing the security. Winnik et al. is cited for its teaching of a color-shifting ink composition useful in providing security to documents, which includes the use of chromophore dyes (col. 8, line 50 through col. 9). Winnik et al. teaches inks that are substantially colorless and detectable when exposed to radiation outside the visible wavelength range, and which are useful in processes wherein it is desired to place invisible markings on documents such as providing security markings. One having ordinary skill in the art would have recognized, upon seeing the teachings of Phillips et al. and Winnik et al. in combination, that the chromophore-based inks of Winnik et al. would have added an increased level of security to the optical coatings/structure of Phillips et al. The test of obviousness is not express suggestion of the claimed invention in any or all references but rather what the references taken collectively would suggest to those of ordinary skill in the art presumed to be familiar with them. *In re Rosselet*, 347 F.2d 847, 146 USPQ 183 (CCPA 1965); *In re Hedges*, 783 F.2d 1038.

14. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walter et al. or WO '155 as applied to claim 1 above, and further in view of Phillips et al.

Walter et al. and WO '155 lack a teaching of structuring the polymer spacer layer through decrosslinking effects, and additionally by means of fingerprint algorithms. Phillips et al. is similarly directed to manufacturing an antifalsification identification element comprising a reflective layer, a polymeric spacer/dielectric layer, and an absorber layer which may contain metallic flakes. Phillips et al. teaches "structuring" of its layers, including polymeric dielectric layer, through laser ablation and/or laser scribing (paragraphs 90-94). (It is noted that Applicant's own specification discloses at page 5, first full paragraph, that laser modification is a known means for effecting structuring or decrosslinking of its spacer layer.) Phillips et al. teaches the desire to form unique features including bar codes, pictures of faces or people, etc. (paragraph 91). It would have been obvious for one having ordinary skill in the art, seeing the references of Walter et al. or WO '155 and Phillips et al. in combination to have similarly performed laser ablation and/or laser scribing in the optical coating(s) of Phillips et al. with the expectation of providing increased security to its product. It would have further been obvious for one having ordinary skill in the art to have used fingerprint algorithms to form unique codes, as a matter of design preference, with the expectation of successful results, since the reference similarly teaches the formation of unique codes.

15. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walter et al. or WO '155 as applied to claim 1 above, and further in view of Phillips et al. and Kraus et al.

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Walter et al. and WO '155 lack a teaching of treating the polymer spacer layer with sodium hypochlorite. Phillips et al. is similarly directed to manufacturing an antifalsification identification element comprising a reflective layer, a polymeric spacer/dielectric layer, and an absorber layer which may contain metallic flakes. Phillips et al. teaches the desire to form various images in its optical coating to provide enhanced security. Phillips et al. teaches use of etching as means to form the images (paragraph 91). The Examiner notes that the claimed chemical sodium hypochlorite is a known etchant. The prior art of Kraus et al. is cited merely for its teaching that hypochlorite salts are known etchants, including sodium hypochlorite (paragraphs 13-14). It is the Examiner's position that it would have been obvious to one having ordinary skill in the art to have used any known etchant, including sodium hypochlorite, to etch various images in its optical coatings (including the spacer layer) in the process of Walter et al. or WO '155 upon seeing the references of Walter et al. or WO '155 in combination with Phillips et al. and Kraus et al., with the expectation of successful results since Phillips et al. is not limited to particular materials to be used and since sodium hypochlorite is a known etchant material.

16. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walter et al. or WO '155 as applied to claim 1 above, and further in view of Phillips et al. and Winnik et al.

Walter et al. and WO '155 lack a teaching of adding a chromophore to the spacer layer. Phillips et al. is similarly directed to manufacturing an antifalsification identification element comprising a reflective layer, a polymeric spacer/dielectric layer, and an absorber layer which may contain metallic flakes. Phillips et al. discusses the inclusion of color shifting ink in its optical coating (paragraph 90) as means for increasing the security. Winnik et al. is cited for its

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teaching of a color-shifting ink composition useful in providing security to documents, which includes the use of chromophore dyes (col. 8, line 50 through col. 9). Winnik et al. teaches inks that are substantially colorless and detectable when exposed to radiation outside the visible wavelength range, and which are useful in processes wherein it is desired to place invisible markings on documents such as providing security markings. One having ordinary skill in the art would have recognized, upon seeing the teachings of WO '155 or Walter et al. in combination with Phillips et al. and Winnik et al., that the chromophore-based inks of Winnik et al. would have added an increased level of security to the optical coatings/structure of Walter et al. or WO '155. The test of obviousness is not express suggestion of the claimed invention in any or all references but rather what the references taken collectively would suggest to those of ordinary skill in the art presumed to be familiar with them. *In re Rosselet*, 347 F.2d 847, 146 USPQ 183 (CCPA 1965); *In re Hedges*, 783 F.2d 1038.

### ***Conclusion***

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirsten C. Jolley whose telephone number is 571-272-1421. The examiner can normally be reached on Monday to Tuesday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kirsten C Jolley/  
Primary Examiner, Art Unit 1792

kcj